

**INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT):  
AN IMPERATIVE FOR TEACHER EDUCATION**

by

**Dr. Ebeogu U.M.**

And

**Dr. Ezeoba, K.O.**

**Department of Curriculum/Educational Technology,  
Nwafor Orizu College of Education Nsugbe**

**Abstract**

*This paper ex-rayed the importance of integrating ICT in teacher education. This stems out of the fact that the ICT revolution has transformed the ways in which ideas and information are recorded and communicated, and in the process, has brought far-reaching changes to teacher education programmes. The writers bought far-reaching changes to teacher education programmes. The writers observed that the new wave of knowledge calls for training and re-training of teachers for them to keep pace with this “explosion” to avoid lapsing into rapid professional obsolescence. Since teachers have the potential for enhancing the quality of education by bringing life to curriculum and inspiring students to self-directed learning, therefore they need to be properly trained in the new technology. The government on her part should make adequate provisions for the necessary infrastructure for the training/re-training of teachers. One of the banes of the use of ICT materials is poor power (electricity) supply. The government should therefore as a matter of urgency look into that case. Teachers should be allowed to go for in-service training, and seminars/workshops should be organized regularly for them.*

**Introduction**

Communication is a two-way process which stands for sharing of ideas, thoughts, beliefs, and information with others. The mutual sharing between the source and the receiver of information thus tends to add in its increase, understanding and use that ultimately help in building up knowledge. In this way, both information and communication are utmost needed in acquiring knowledge and getting involved in the knowledge – acquiring process. It can therefore be said that the efficiency and effectiveness in the activities selected to information and communication is availed from information and communication technology (ICT).

In a nutshell, information and communication technology (ICT) is that type of technology that is employed in the shape of tools, equipment and application support which helps in the collection, storage, retrieval, use, transmission manipulation and dissemination of information as accurately and efficiently as possible for the purpose of enriching the knowledge, developing communication, decision-making and problem solving ability of the user. In this millennium, information and communication are the keys of knowledge and learning and then proper and scientific organisation and control is bound to lead towards the effective educational effort for the proper realization of educational goals. The Information and Communications Technology (ICT) revolution has transformed the ways in which ideas and information are recorded and communicated: and in the process, has brought far-reaching changes to teacher education programmes. However, the rise of ICT does not mean an end to classrooms, libraries, and laboratories. Many of the traditional elements of education still offer excellent value, for example printed books and articles remain most people's favorite way of grappling with new knowledge.

Today, ICT has permeated almost all facets of the society – work place, schools, homes, etc. It has informed the way we do things, e.g. the impact of the mobile phones; digital photography etc. (Awotua – Efebo 2006) points out that we are on the brink of a radical development so fundamental that they will alter our education system.

### **Information and Communication Technology (ICT) in Education**

The introduction of technology in the education system is relatively new. Relatively new because technology has always been with us but had not been fully utilized for educational purposes. For instance, the radio and television were being used purely for public enlightenment and entertainment. Nowadays, there is no doubt that modern communication technology has vastly increased our exposure to information and experience. In other words, modern communication technology is now part and parcel of the learning situation. Above all, the new experience has defined a new concept for “edutainment”, a combination of education and entertainment, (The Common Wealth of Learning 2003). For stance, the most famous form of edutainment is “sesame street”. The main aim of “sesame street” was to use the popular television techniques to promote the intellectual and cultural growth of pre-scholars. The Nigerian version of “Sesame street” is “Tales by the Moonlight”, a popular NTA programme for children. This programme is transmitted every Sunday between 5pm – 6pm. The effectiveness of this research is faultless because the children that watch the programme are not only entertained but also educated. The series have demonstrated that making programmes for entertaining need not preclude teaching. The programmes have been evaluated over the years and it was discovered that all the children who were tested showed learning gains.

The evolutionary trends in the field of Educational Communication Technology can be grouped into three distinct though not mutually exclusive ages (Ofoefuna & Eya (1999:3). They include: the stone age, the board. While paper and board still linger on and multiply astronomically, developments in science and technology brought in even more spectacular phenomenon of knowledge explosion. This paper presents the new technology and how it affects both the teacher and the taught. As earlier mentioned, technology has always been with us, but today's Information Communication Technology is different because of its information – processing abilities. The modern ICT, according to Francis (1986) has the following characteristics:

- (i) Information Capture (gathering & collecting data)
- (ii) Information storage (the ability to retain data)
- (iii) Information manipulation (processing)
- (iv) Information distribution (the ability to transmit information electronically).

Contributing, Wall and Kemp (1987) opined that the older technologies like radio and television do not have the ability to do all the things mentioned above. However, they could substitute for people's physical capabilities but cannot compliment the mental capabilities which today's modern ICT can. Further more, ICT has the potential for enhanced control, flexibility and integration which are ingredients for effective teaching and learning (the computer and internet).

### **Teacher Education and ICT**

In Nigeria, there are many institutions (Professional teachers) where teachers are trained in order to teach others. These include Colleges of Education and Faculties of Education in Universities. There they go through formal schooling, taking prescribed courses that qualify them for the profession. In the FRN 1981: Article 7, revised 2004 it stipulated that in – service training, workshops/seminars will be granted to teachers in order to up-date their knowledge. This is because teachers are not finished products even after the completion of a preparation programme. No wonder the thirty-fifth session of the International Centre on Education (ICE) held in Geneva (Gorble & Porter, 1977) drew attention to this when it noted that there are limits to the effectiveness of any pre-service course of preparation however well conceived, and that initial training will only be successful, if it is abridged into a professional life which is illuminated by regular periods of in-service education and training. Furthermore, the scientific enterprise of today is characterized by “knowledge explosion”. The bank of knowledge which the teacher has acquired during his training can no longer adequately sustain him/her through his/her professional life. A situational imperative has therefore arisen, posing an undeniable challenge to the teacher to keep pace with the “explosion”, ICT, to avoid lapsing into rapid professional obsolescence. Ajayi (1982:59) sums it up thus: “without planned programmes for up-grading their work, teachers may remain isolated on an educational island remote from innovative practices and procedures”.

Also, teachers who teach under a variety of conditions and constraints which were not part of their training need some form of in-service professional training to the “reality shock” emanating from the realities of their classroom situation.

### **ICT Training a sine qua non in Teacher Education**

This paper sees ICT training/retraining a must for teachers if the education system must move forward. This training and retraining will expose them and make them better and more effective in their jobs. Unfortunately, the big question is, who will provide the resources and the technical man-power for the training and retraining? Another question is: what about the power supply (electricity)? These are the responsibilities of the Government at the federal state and local levels if she is interested in the education system to move forward and be attuned with what is obtainable at international level. Teacher education in Nigeria has faced barrage of criticisms in recent years (Maduabum, 1997; Nwagwu, 1998; Ukeje 2,000; Obanya, 2,004). The need of the moment clearly is not to perpetuate the status quo but to make necessary improvements for the betterment of the education sector. It is worthy of note that the federal Government through the National policy on Education (NPE) declared that “Teacher education shall continue to take cognizance of changes in methodology and in the curriculum” Teachers shall regularly be exposed to innovations in the profession” section 8(75) added that in-service training shall be developed as an integral part of continuing teacher education and shall also take care of inadequacies. It is rather unfortunate that the federal Government has failed to live up to her declarations. More worrisome, as Fadilpe (1992:225) right observed, is that teachers who on their own attempt to upgrade themselves through in-service training without necessary approval by the government stand the risk of dismissal, through the policy advocated for such exposure. How then are the teachers going to avail themselves of the opportunity of acquiring the new knowledge facing them? Hawes (1975:17) reminds us that good intentions are of little value, unless they are followed with constructive planning and backed by the means, the men and the materials to make the plans work. Also, Obanya (2004) has lamented that one of the ways in which we have failed teachers in the later year of 20th century is to have treated teaching as the only profession in which continuing self improvement was not necessary. Available evidence clearly indicates that a yawning gap exists between policy provision and implementation at all levels of our education system, especially teacher education. Green Lands (1983) report on in-service training of school teachers in Africa presents a vivid picture of the Nigeria situation. He said that head teachers in other African countries like Zimbabwe, Zambia, received travel allowances, lodging and other expenses but that it is not so in Nigeria. This uncaring attitude of the government towards the teacher’s academic growth and development often results in poor attitude to work and lack of enthusiasm. However, teachers should realize that they are life-long students, for teacher education never ends.

### **Teachers as key factors in Curriculum Development**

Schooling is organized so that educational policies, curriculum, and instruction are interpreted and enacted by the teacher. Teachers are now much very involved in the curriculum development process; they define it and interpret it too. Besides, the teachers are human points of contact with students. Who the teacher is and what the teacher does, mediate all other influence on the quality of education by bringing life to curriculum and inspiring students to curiously and self-directed learning. Teachers can also degrade the quality of education through incompetence what teachers believe, and what teachers do at the level of the classroom (Clark, 1995:3) that ultimately shape the kind of learning that young people get (Hargreaves, 1995). Whatever happens, teachers determine the quality of education at all levels primary, secondary and tertiary. It is common knowledge that no one can give what he does not have, so if the teacher is not adequately exposed through training in ICT, he cannot communicate effectively with his students in the area. The teacher gets sufficient help from ICT in their task of teaching. Their acquaintance with the relevant source of information in the form of books, journals and other reading materials, audio-visual material and equipment, and electronics and telecommunication media makes them able to acquire necessary teaching material and techniques. The implication of the above postulations is that the government should as a matter of urgency provide the necessary infrastructure for the training and re-training of teachers in information and communication of technology (ICT). This is because most of the teachers in the field now were trained under the old dispensation (traditional classroom) and have no knowledge of the new knowledge of ICT explosion. It is encouraging to observe that in some Universities in the country, computer centre (Afrihub) are established where lecturers/students who wish to be computer literate go to acquired one form of training or the other in ICT. Even some Universities have made it compulsory that all their lecturers must be computer literate. This is a right step in the right direction. Education has moved from teacher-centered to learner-centered and so the teacher should be well-skilled and knowledgeable in order to communicate effectively with the learner.

### **Conclusion**

The information and communication technology (ICT) revolution has formed the ways in which ideas and information are recorded and communicated, and in the process, has brought far-reaching changes to teacher education programmes. This being the case, teachers who have the potentials for enhancing the quality of education by bringing life to curriculum and inspiring students to curiosity and self-directed learning should be exposed to these new technologies through in-service training and re-training programmes. The government recognizes the crucial importance of teacher education in her policy declarations, that “since no education may rise above the quality of its teachers, teacher education shall continue

to be given major emphasis in all education planning and development” (FRN, 2004:39). Section 8(75) of the policy document went on to say; “Teacher education shall continue to take cognizance of changes in methodology and in the curriculum. Teachers have the potential for enhancing the quality of education by bringing life to curriculum and inspiring students to curiosity and self-directed learning”.

### **Recommendations**

If the Nigerian government will demonstrate sincerity towards the integration of ICT into the educational system as they purport to do, closer attentions should be paid to teacher education. The writers therefore make the following recommendations.

1. The Federal and State government should provide ITC materials/equipment (computers, televisions, projectors, radios etc) for use in teacher training institutions so that the teachers will be exposed to face the new challenges of the new “knowledge explosion”;
2. There should be adequate man-power to handle the technical know-how of the new age
3. The incessant power failure in the country should also be taken care of by providing generators, as these ICT gadgets are projected materials;
4. The government should from time-to-time organize seminars/workshops for the teachers to up-date their knowledge. The writers strongly believe that in the next ten years, the use of ICT in the teaching/learning environment will increase and if the teacher who is central and paramount in educative process is left out, the quality of education will suffer.
5. Teachers should encouraged through motivation/reward, and their salaries and other allowances paid as and when due.

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